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160 SPEAR STREET, SAN FRANCISCO, CALIFORNIA 94105, TEL. 415/777-2811
International Specialists in the Environment

MEMORANDUM

TO: Paul La Courreye, EPA

FROM: Patty Cook, E & E, Inc.

DATE: 6/30/88

SUBJECT: Completed Work

cc: Marcia Brooks, E & E, Inc.

This list is for the attached completed:

[ ] PA(s)

[ ] PA Review(s)

[ ] PA Reassessment(s)

[X] SI(s)

[ ] Other _____

SI complete 7.11.88 pw

Site Name	EPA I.D.#	City	Recommendation	State Lead
Rutherford Pacific, Inc.	CAD980737035	Long Beach	LSI	Tim Parker, DOHS

4 A, SI, L, 04/01/88 S 9136

2036

j/te/ruthfd/cwm

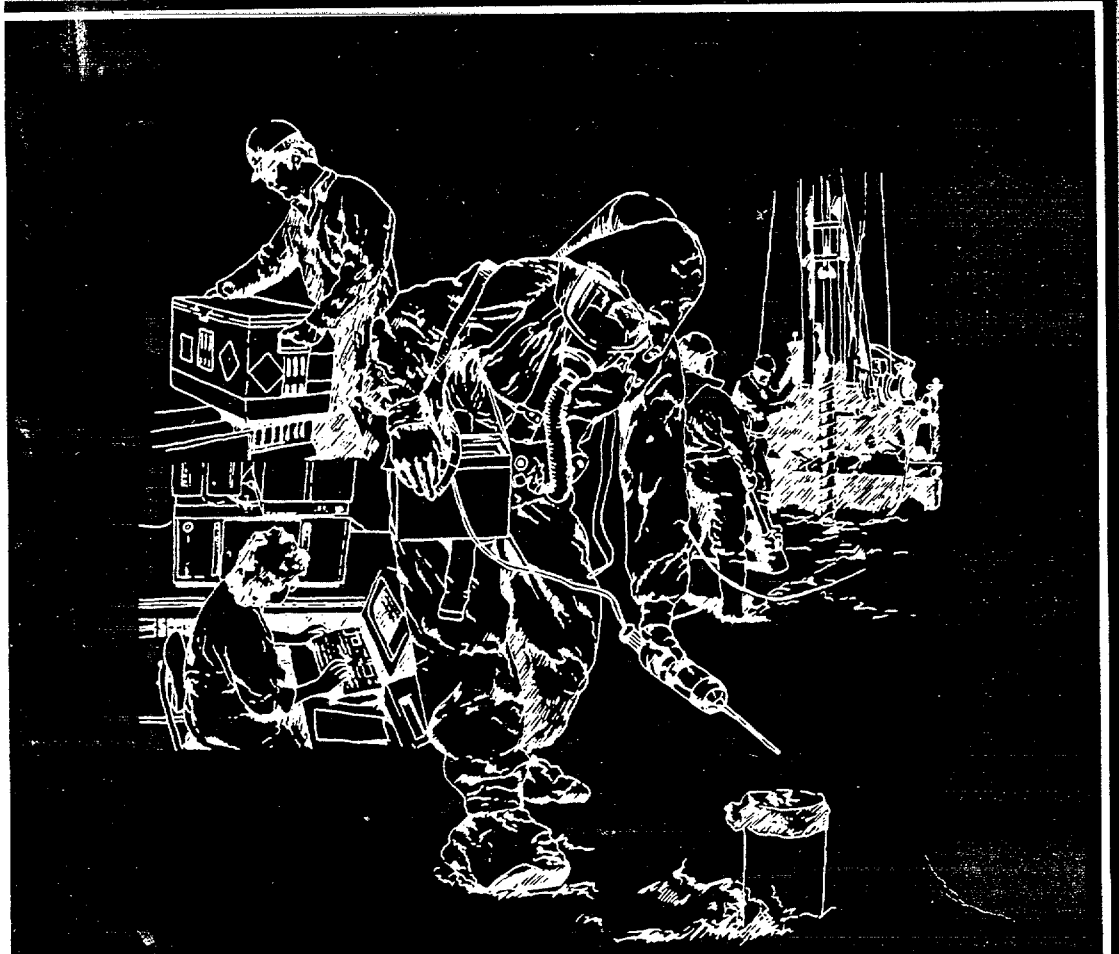
Purpose: CERCLA Site Inspection

Site: Rutherford Pacific, Inc.
3020 Orange Avenue
Long Beach, California, 90807
Los Angeles County

EPA

HAZARDOUS SITE EVALUATION DIVISION

Field Investigation Team Zone II



CONTRACT NO.
68-01-7347

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1937

Purpose: CERCLA Site Inspection

Site: Rutherford Pacific, Inc.
3020 Orange Avenue
Long Beach, California, 90807
Los Angeles County

Site CERCLIS ID Number: CAD980737035

TDD Number: F9-8705-06

E & E Program Account Number: FCA0640SAA

FIT Investigators: Tim Eckard
Douglas D. Russell
Earl LaPensee

Date of Inspection: July 15, 1987

Report Prepared By: Tim Eckard

Report Date: June 30, 1988

FIT Review/Concurrence: D Russell 6-30-88

Submitted to: Paul LaCourreye
Site Screening Coordinator
EPA

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1. INTRODUCTION

The Rutherford Pacific, Inc. (Rutherford) Site is located at 3020 Orange Avenue in Long Beach, California. The site covers approximately one and one-half acres and was formerly the location of a waste oil recycling facility. Operations were continuous between 1946 and 1985 under various company names. After the accidental death of an employee on February 21, 1985, an investigation/inspection was conducted by State of California, Los Angeles County, and City of Long Beach health agencies. The company was directed to cease operations, remove any hazardous wastes stored at the facility, and submit a remedial action plan for the cleanup of areas contaminated from illegal waste disposal. The site has been vacant since the removal of all tanks, equipment, and buildings during 1986.

The Southern California Section of the Department of Health Services (DOHS) proceeded with enforcement actions against Rutherford. The company was referred to the Los Angeles District Attorney for possible civil/criminal penalties. DOHS completed a preliminary assessment (PA) and performed a California site ranking. DOHS's PA recommended high priority, active status for this site. DOHS's Assessment and Mitigation Unit also became involved after the site was placed on the State Expenditure plan.

The U.S. Environmental Protection Agency (EPA) also performed a PA of the site and concurred with DOHS's conclusions; it recommended a high-priority Site Investigation (SI) so that the potential for the site to score on the National Priorities List could be assessed (1). The EPA tasked Ecology and Environment, Inc.'s Field Investigation Team (FIT) to perform an SI to determine if the previous site activities and waste management practices posed a threat to human health and/or the environment according to the Hazard Ranking System (HRS) model.

The Rutherford site was inspected on July 15, 1987 by FIT pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund). This report summarizes information obtained by FIT and makes recommendations for further CERCLA and/or state action with regard to the site.

2. SITE CHARACTERIZATION

2.1 Site Description and History

The one and one-half acre Rutherford site is located at 3020 Orange Avenue in Long Beach, California (Figure 2-1). Most of the site history and description is based on information from DOHS and private consultant reports. Previous reports of the site vicinity indicate that the site was originally a slough area with an elevation of about 75 feet above mean sea level (2). The Rutherford site, previously known as Facet Energy, is located midway between Walnut and Orange Avenues directly north of Spring Street. The site is bounded to the east by a commercial building, to the west by a mini-storage facility, and to the north and south by light industrial facilities. The property is surrounded with either a six-or-eight-foot chain-link fence except on the east side of the property. The site previously consisted of a tank farm, process still, cooling towers and trailer office prior to the DOHS directive to clean up the site. Following orders given by the State, the owners of the property removed all tanks and building structures on the site, which is now vacant.

2.1.1 History of Site Occupancy

The site ownership and history of the facility prior to 1965 described in this report are not documented very well and are based on consultant's reports prepared for Cree Investment Company, the present owner (2,3,5). From the early 1900s through the mid- 1940s, the Rutherford property was apparently used as a disposal site for masonry and wood building debris from demolition. From approximately 1946 through 1985, the site was used continuously as a waste-oil recycling facility, which was owned and operated by several companies and/or individuals who leased the property from the property owners described in Section 2.1.2 (2, 3, 4, 5). Rutherford Oil Company constructed a waste oil recycling facility consisting of a tank farm and associated equipment and buildings on the property, which began operation in 1946 and continued through 1979.

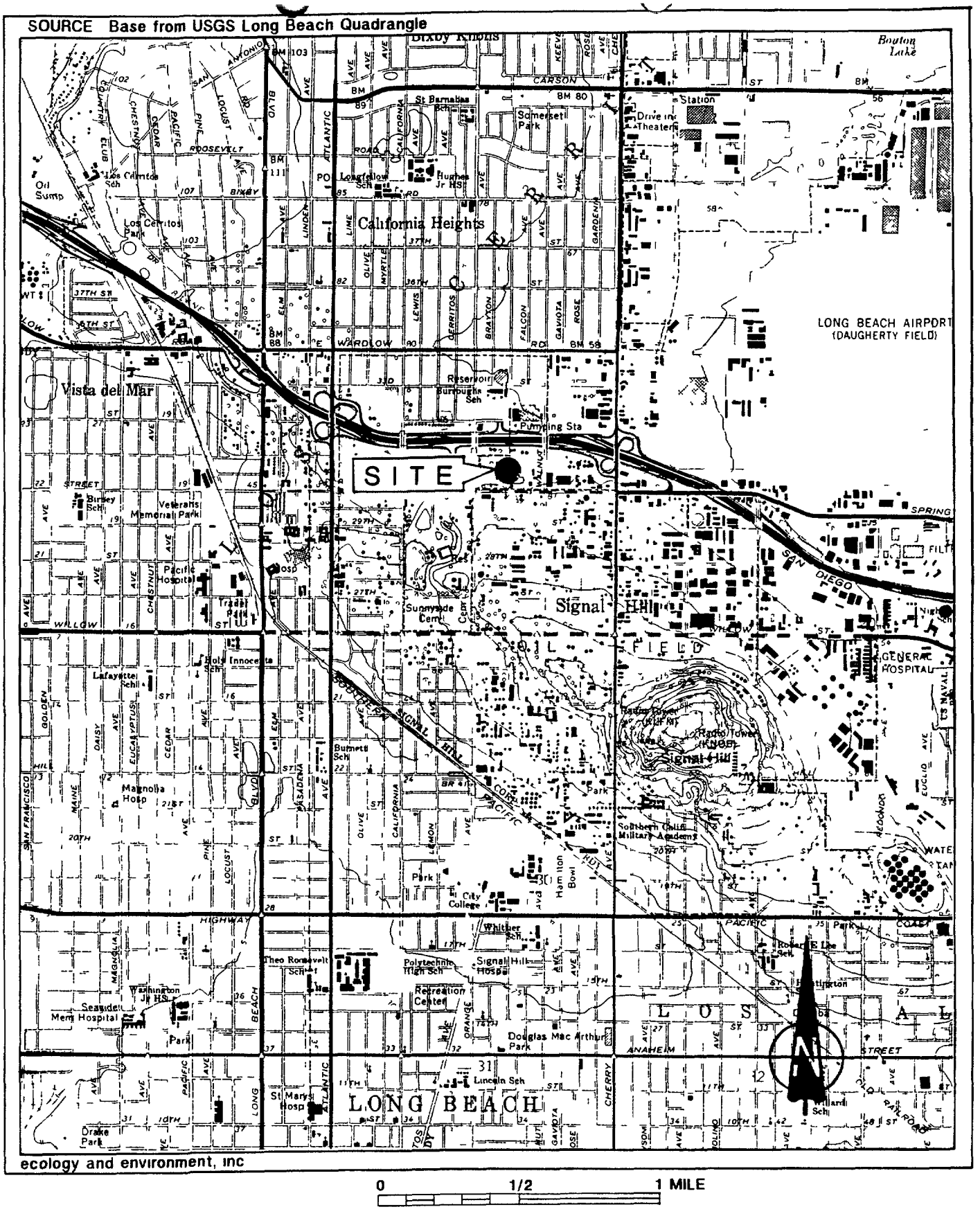
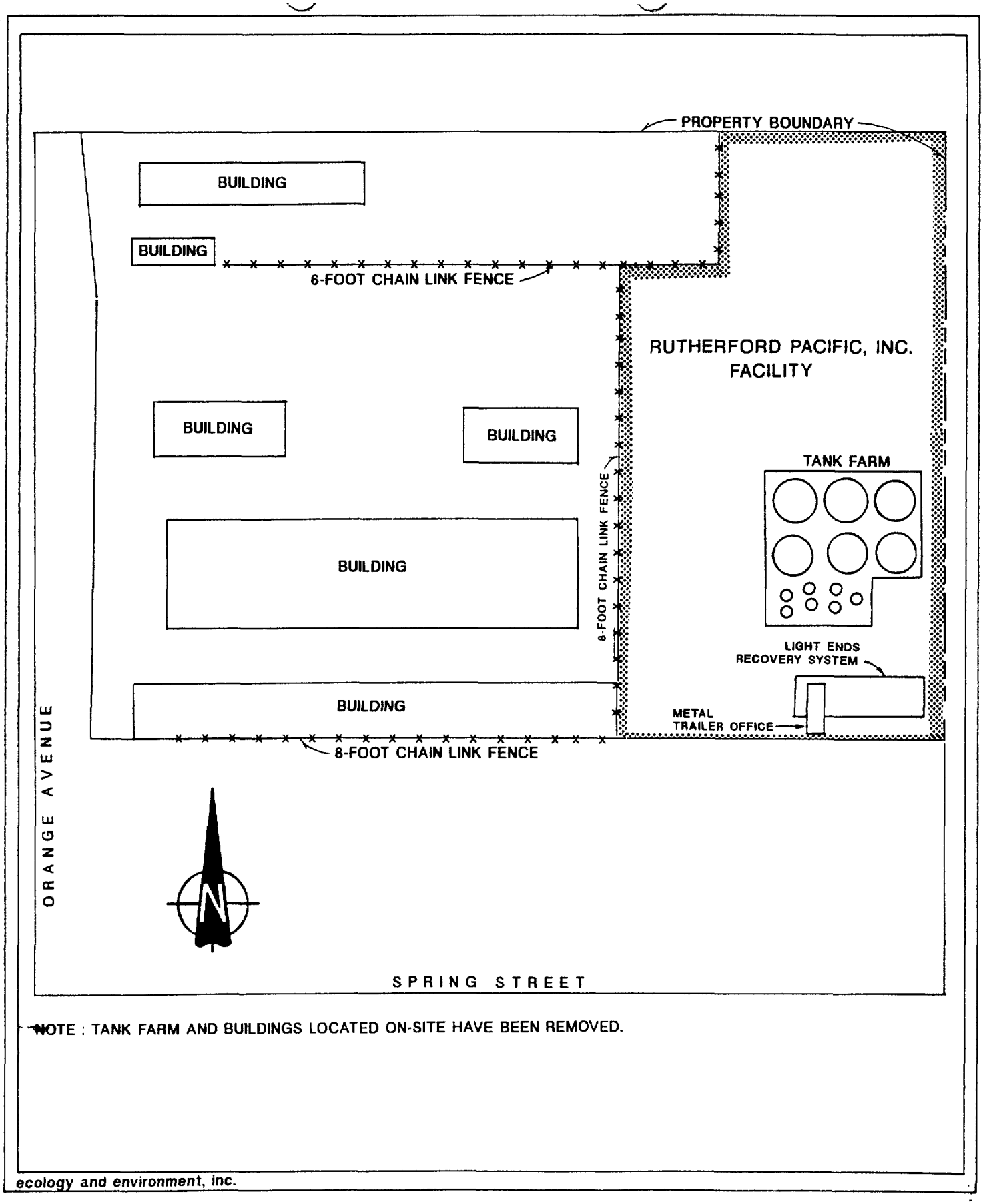


FIGURE 2-1
SITE LOCATION MAP
RUTHERFORD PACIFIC, INC.



NOTE : TANK FARM AND BUILDINGS LOCATED ON-SITE HAVE BEEN REMOVED.

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FIGURE 2-2
FACILITY MAP
RUTHERFORD PACIFIC, INC. (AKA FACET ENERGY)

Rutherford Oil Company filed for bankruptcy and was purchased by Lawrence Webster and Thomas Allen on June 15, 1979. The facility continued to operate as Rutherford Oil until 1982, when Mr. Webster changed the title to Facet Energy Inc. Facet operated the recycling facility, while the title of Rutherford Pacific, Inc. was created by Mr. Webster for the entity that hauled waste from the site. Mr. Webster also created Intercoastal Oil, Inc. to manage the purchasing/sales of the recylced waste oil. Although they were separate companies, Mr. Webster owned 100% of Facet Energy, Inc., 100% of Rutherford Inc. and 51% of Intercoastal Oil.

2.1.2 History of Site Ownership

Most of information on site ownership and history after 1965 that appears in this report is based on the PA prepared by the DOHS (4). In 1903 the Rutherford property was purchased by the City of Long Beach and was subsequently used for disposal of demolition debris, such as from the 1933 Long Beach earthquake. It is most likely that the site area served as a disposal ground until the mid 1950s, so that there was some overlap between the debris disposal and oil recycling operations (1). In 1958 the City of Long Beach sold the property to Ansco Construction Company. Cree Investment Company subsequently purchased the property from Ansco in 1977, and sold it to Marlex Refining in 1979. In 1984 Cree Investment Company again took possession of the property due to the default and subsequent bankruptcy of Marlex (2, 3, 4).

2.2 Process Description

Limited information exists on the actual processes used at the Rutherford site. The PA prepared by the DOHS was the sole source of information concerning site processes. The operators of the facility accepted used oil from various sources and recycled it for re-sale. The oil was delivered by truck and deposited in two drop tanks near the tank farm. The oil was pumped from the drop tank to a raw feeder tank, and when enough oil was collected, it was placed in treatment tanks, where it was heated to 160 degrees and mixed with dewatering chemicals. The treated

oil was collected in a unit feeder tank before being transported to a distillation unit at the southeast section of the site. The heavier refined oil was pumped back to several product-holding tanks, while lighter petroleum products were placed in two tanks near the distillation unit. Wastewater was pumped into the wastewater holding tanks (4). Descriptions of the wastewater are not documented as well as the method and location of disposal.

2.3 Waste Management Practices

The practices associated with the handling and disposal of oil recycling wastes are not well-documented. The facility was designed to accept only waste oil; however, a manifest check by the DOHS has revealed that the facility accepted halogenated solvents, other unspecified solvents, and acetone. The facility was suspected of disguising transportation of solvents and other non-oil waste as oily wastewater in order to avoid disposal requirements. A load of wastes, marked "mud and water" on the company's manifest, was rejected by BKK Landfill in May 1983 because it had a "strong organic odor" (4).

The facility consisted of a tank farm and cooling towers with 16 tanks of up to 50,000-gallon capacity each. The perimeter of the tank farm was surrounded by a cement berm one foot in height. The area within the berm was unlined. Inspection reports by the DOHS indicate that the inner bermed area contained a dark black/brown oily sludge up to one foot thick, which had been analyzed by the DOHS Hazardous Materials Unit on May 3, 1985: the sludge was found to have high concentrations of metals (Pb = 4,200 ppm; Zn = 2,100 ppm; and Cu = 1,000 ppm). There is no sample location map available that indicates where the surface soil samples were collected by DOHS. The DOHS estimated that there were approximately 4,900 square feet of inner tank space within the bermed area (4). Using conversion factors, an estimated 181 cubic yards of contaminated sludge existed on-site prior to its removal in May 1986. The PA summary prepared by the DOHS (4) reported illegal discharges at the Rutherford site both on-site and off-site during operation of the facility that included discharges directly into the Long Beach sewer system. Details

of these illegal discharges and evidence for the discharges were not provided in the DOHS PA summary. The operator of the adjacent property to the east, Evan's Pump Company, complained about runoff from the Rutherford facility ponding in low-lying areas on Evan's property. Analysis of soil samples collected by DOHS on Evan's property in May 1985 also showed high concentrations of metals (Pb = 2,500 ppm; Ni = 5,900 ppm; Cu = 21,000 ppm; and Cr = 5,300 ppm). PCBs were analyzed for, but not detected in any of the samples.

2.4 Permits

Rutherford had a Resource Conservation and Recovery Act (RCRA) permit for the transportation of hazardous wastes, dated July 1, 1982. The Rutherford facility had no other permits either for storing or disposing of hazardous wastes on-site or off-site. The site is currently not regulated under RCRA or any other federal legislation (1).

2.5 Remedial Action

The current property owner, Cree Investment Company, initially had the oil recycling facility dismantled and removed from the site between March and July 1986 (3). These preliminary removal measures were followed by a shallow soil boring investigation of contaminated soil beneath the site by SCS Engineers, consultants to Cree Investment, on December 31, 1986 and January 13, 14, and 15, 1987 (5). The dismantling and removal work performed by Cree Investment Company was not documented very well and was not approved or overseen by either DOHS or city personnel. The shallow soil boring investigation performed by SCS Engineers was approved and partially overseen by DOHS personnel. The DOHS found that the surface soil sampling effort they conducted during May, 1985 and the subsurface soil sampling conducted by SCS Engineers was adequate in determining the vertical and areal extent of contamination. Based on the file search conducted by FIT and conversations with personnel at the DOHS, there has not been removal of any contaminated soil at the adjacent property located east of the Rutherford site (Evan's Pump Company). Further remedial work at the site is pending DOHS review and recommendations.

The following description of the removal actions reported to have been conducted at the site by Cree Investment Company, is based on an "Environmental Site Clean-Up Work Plan" (3) prepared for Cree by a consultant and on an interview between FIT investigators and Mr. Bob Cree during the site inspection. The remaining material that was stored at the site in tanks, prior to cleanup and removal, consisted of waxy oils, water, and sludge from cleaning operations. This material was transported off-site and recycled to the extent possible by Petro Recycling Inc. (EPA ID# CAT080011059), located at 1835 East 29th Street, Signal Hill, California. The Petro Recycling facility was described by the consultant for Cree Investment Company as fully permitted to handle the materials listed above. All non-recyclable sludges and oily dirt (some of which was removed during shallow excavation work at the site) were solidified and transported to the Casmalia Class I Landfill located in California. The locations, depths, and criteria use to select areas for excavation and removal at the site were not made available to FIT. Western Waste Industries (EPA ID# CAD041678137) provided lined bins and adsorbents and transported the waste materials. Western Waste is located at 19803 South Main Street, Carson, California (3).

The soil boring investigation performed at the Rutherford site by SCS Engineers was limited to the areas in and around the area of the former tank farm and light ends recovery system (Figure 2-3). Six exploratory soil borings were drilled at locations designated by DOHS. Soil borings were drilled at the Rutherford site to a depth of 30 feet below ground surface under the supervision of SCS Engineers.

Figure 2-3 shows the soil boring locations. Drilling was performed utilizing a Mobile HD drilling rig mounted with a 6-inch hollow-stem auger. Four soil borings were drilled within the area of the former tank farm. SCS Engineers was unsuccessful in advancing boreholes at several locations (BH, BH 1A, BH 1B, BH4, and BH4A) due to the presence of buried rubble underneath the site. Two soil borings were drilled in the area of the light ends recovery system. Soil samples were retrieved at depths of 2, 5, 10, 20, 25, and 30 feet using a split-spoon barrel sampler.

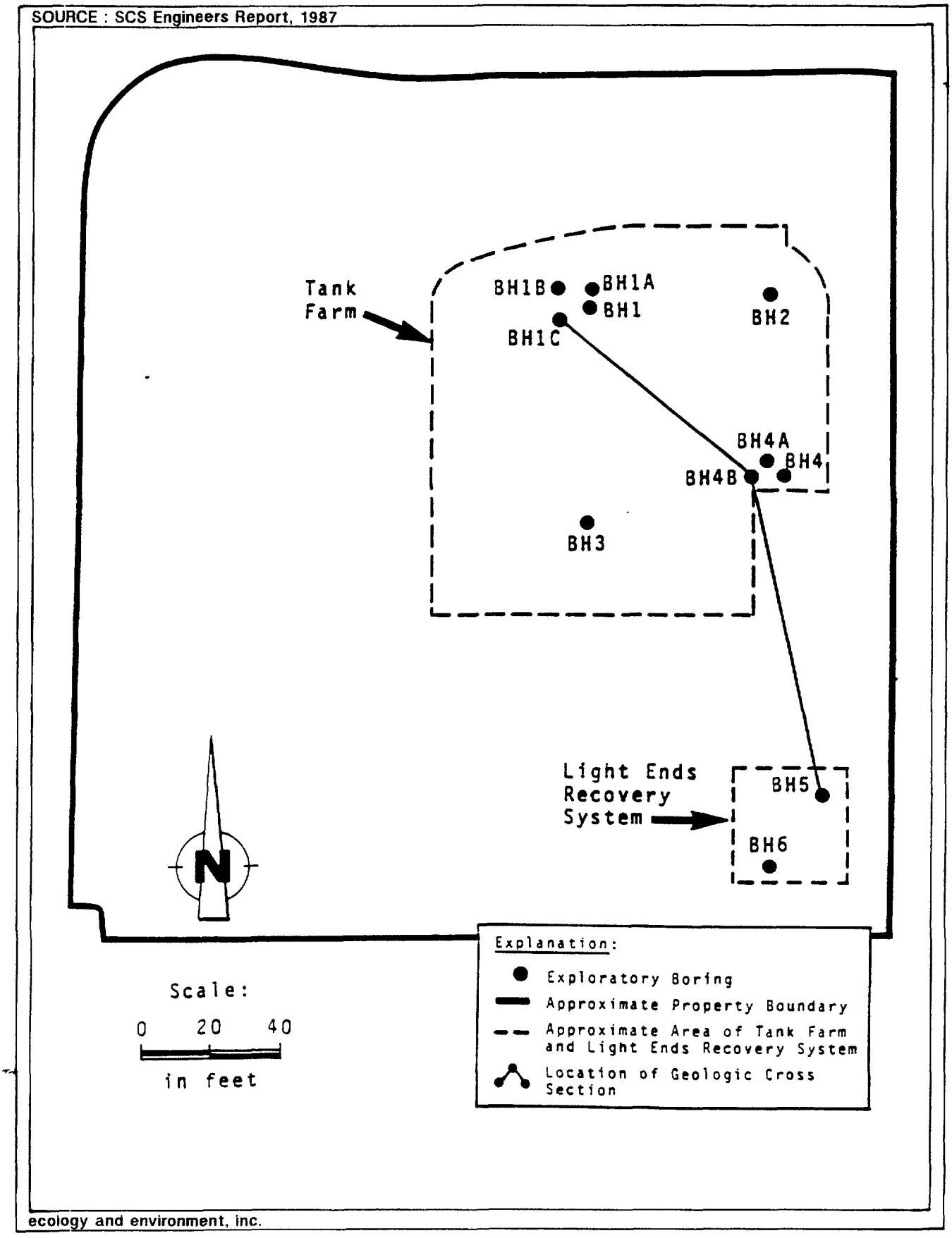

FIGURE 2-3
LOCATION OF EXPLORATORY SOIL BORINGS
AT THE RUTHERFORD PACIFIC, INC. SITE

Soil samples were physically examined by SCS Engineers personnel and lithologically logged. The soil samples were also screened with an organic vapor analyzer and recorded in the geologic logs prepared by SCS Engineers. The geologic logs of each soil boring are provided in the report to Cree Investment Company entitled "Preliminary Site Assessment Report for the Facet Energy Site" prepared by SCS Engineers (5).

A total of 42 soil samples were collected by SCS Engineers during the subsurface soil investigation. Only 24 of these soil samples were analyzed for EPA 8010 and 8020 components and total lead. SCS Engineers Preliminary Site Assessment Report to Cree Investment Company contains all of the analytical data collected during the subsurface soil investigation (5). Table 4-1 summarizes the soil analyses known to have been collected at the site within or below the perched water table.

Based on FIT's review of the soil removal work and preliminary site assessment conducted by SCS Engineers and other contractors for Cree Investment Company at the Rutherford site, the vertical and areal extent of soil contamination has not been adequately determined for final remedial measures or for a no further action recommendation since soil borings were neither drilled below the depth of known contaminants or located offsite to determine background conditions. Subsurface soil samples were analyzed for a limited amount of possible contaminants which do not reflect all of the known contaminants that were identified during the surface soil sampling effort performed by the DOHS. Neither the DOHS surface soil sampling effort or the subsurface soil sampling investigation performed by SCS Engineers was sufficient to identify all of the possible contaminants that might exist at the site. Furthermore, there have been no groundwater monitor wells installed at the site and the shallow groundwater encountered during the soil boring investigation was not sampled.

3. ENVIRONMENTAL SETTING

3.1 Surrounding Area

The Rutherford site is located in the community of Signal Hill, which is considered part of the Long Beach metropolitan area, Los Angeles County. The site is shown on Section 19, Township 4 South, Range 12 West on the USGS seven and one-half minute series Long Beach Quadrangle (Figure 1-1). The surrounding vicinity is heavily urbanized, with a residential population of approximately 310,000. The site is adjacent to many small oil refineries and storage facilities. The Long Beach Airport is approximately one mile northeast of the site.

The Rutherford site is approximately 75 feet above mean sea level and is situated on the physiographic boundary that separates the northwestern slope of Signal Hill and the Bouton Plain. North of the site is the Bouton Plain and to the south is the Long Beach Plain. Signal Hill, a large oil-producing field approximately one mile southeast of the site, rises to an elevation of 365 feet above mean sea level. This area is bounded by a fault scarp (The Cherry Hill Fault) which forms part of the Newport-Inglewood Uplift. The Los Angeles River, two miles west of the site, flows in a southerly direction towards San Pedro Bay. San Pedro Bay and the Pacific Ocean are located approximately five miles directly south of the site.

3.2 Geology

The Rutherford site is located on the Newport-Inglewood Uplift area, which forms a regional geologic and groundwater basin boundary between the Central and West Coast Groundwater Basins. Regionally, the area is underlain by Pleistocene semi-consolidated-to-unconsolidated alluvial/marine sediments, which overlie Tertiary fine-grained sediments of marine origin. The Tertiary sediments occur at depths greater than 1,000 feet below the site and are composed of the Miocene Monterey Shale and Puente Formations and the Pliocene Repetto and Pico Formations. The

sediments that comprise these units are siltstone and shale with varying amounts of sandstone and conglomerate. The primary oil producing zones of the area are contained within the Miocene units (6).

Unconformably overlying the Pliocene Pico Formation, is the Lower Pleistocene San Pedro Formation. This unit is approximately 1,000 feet thick and is composed primarily of sand and gravel separated by intervals of silt and clay that were deposited in both marine and alluvial environments. The Upper Pleistocene Lakewood Formation overlies the San Pedro Formation. This unit, approximately 100 to 200 feet thick, contains gravel, sand, sandy silt, and silt and clay deposits of both marine and terrestrial origin.

An exploratory subsurface investigation at the site was conducted as part of the preliminary site assessment for Cree Investment Company by SCS Engineers (5). Their findings are summarized below. The on-site subsurface sediments consist primarily of fine silty sands, clayey sands, and sands. The majority of material encountered during drilling by SCS Engineers was fill material, composed of wood debris and rubble. In the area underlying the pre-existing tank farm, fill material extended to a depth of at least 25 feet and possibly deeper. Fill material in the area underlying the light ends recovery system extended to a depth of about 10 to 15 feet (5).

3.3 Hydrology

3.3.1 Surface Water

The Rutherford site and nearby vicinity have limited surface water. There are no drainages or impoundments on the site. The only surface water within a five-mile area of the site, excluding man-made impoundments, are the Los Angeles River, located two miles to the west, and San Pedro Bay, located approximately five miles to the south. The Los Angeles River originates in the San Gabriel Mountains and is one of three rivers that drain the Coastal Plain of Los Angeles County. This river flows in a southerly direction and empties into San Pablo Bay and

eventually into the Pacific Ocean. The Los Angeles River is channelized and used as a source of recharge for selected groundwater basins.

3.3.2 Groundwater

The Rutherford site is located within the Central Groundwater Basin in the regional groundwater divide that separates this basin from the West Coast Groundwater Basin. Groundwater elevation data at the site is insufficient to determine the direction of groundwater flow in the uppermost aquifer. The general description of the regional groundwater basins provided within this section will apply to both the Central and West Coast Basins since most of the aquifers and associated confining units are similar and extend across the regional groundwater divide.

The Central and West Coast Groundwater Basins extend over most of the Los Angeles Coastal Plain and provide drinking water to area residents. These basins are essentially downwarped, sediment-filled structures that are bounded by regionally extensive faulted and folded geologic structures. The Central and West Coast Groundwater Basins are separated primarily by the Newport-Inglewood Uplift (6). The area of uplift, including the Signal Hill area where the site is located, is topographically expressed as a series of discontinuous, low-relief hills. The major drinking water aquifers of both groundwater basins either merge, pinch-out, or thin in the vicinity of the Rutherford site, which is located in the uplift area (6). The upper 1,000 feet of sediments in these basins, encompassing all of the San Pedro Formation, Lakewood Formation and Recent Alluvium, contain the primary drinking water aquifers. The major aquifers of concern from oldest to youngest (deep to shallow) are: the Sunnyside, Silverado, Lynwood, Gage, Jefferson/Hollydale, and Artesia Aquifers. Most of these aquifers are separated by regionally-extensive aquitards or low-permeable units. However, within one mile of the site, all of these aquifers merge and are hydraulically interconnected (Figure 3-1). Currently, there is no soil

SOURCE . California Dep't of Water Resources Bulletin 104, Appendix A

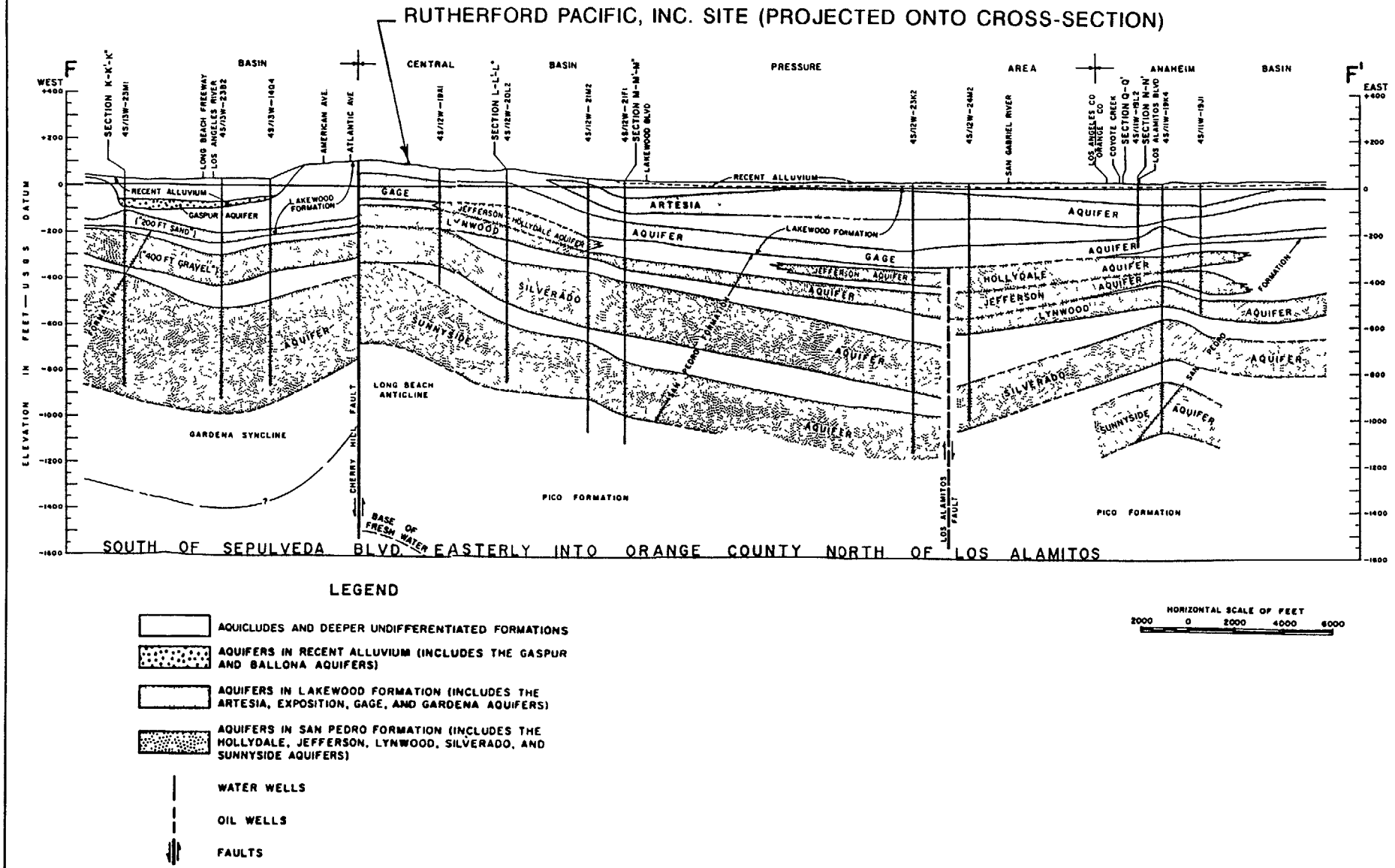

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FIGURE 3-1
REGIONAL GEOLOGIC CROSS-SECTION
NEAR THE RUTHERFORD PACIFIC, INC. SITE

boring data from the site below a depth of 40 feet. Therefore, the subsurface site geology and degree of continuity between various aquifers at depth is undetermined (6).

In the preliminary site assessment conducted by SCS Engineers, thin-perched groundwater lenses were encountered in several borings drilled at the site (5). These lenses were found at depths of about 7 to 13 feet and were determined to be extremely thin (one to three feet maximum). The perched lenses were discontinuous across the site (5).

4. HRS FACTORS

The following HRS factors, used to rank uncontrolled hazardous waste sites according to Uncontrolled Hazardous Waste Site Ranking System, A Users Manual, are applied to the Rutherford site.

- **Observed Release:**

  An observed release to groundwater at the Rutherford site has not been determined since the shallow groundwater has not been sampled and analyzed. However, the potential for a release is very likely due to the presence of contaminated soil within and below the shallow perched groundwater table at the site. Analysis of soil samples from soil borings at the Rutherford site indicate the presence of both inorganic and organic contaminants in the upper 30 feet of unconsolidated sediments. At least four of the borings drilled on-site encountered perched groundwater, within and below which contaminated soil samples were collected. Table 4-1 summarizes the soil analyses known to have been collected within or below the perched water table. Section 3.3.2 of this report summarizes the local hydrogeology of the site area and indicates that below the perched water table, (i.e., below a depth of approximately 50 feet) all of the regional drinking water aquifers merge within one mile of the site and are hydraulically interconnected. The extent of hydraulic interconnection between the upper perched water table and the lower interconnected regional aquifers is currently unknown.

- **Groundwater:**

  Perched groundwater is known to exist at a depth of seven to thirteen feet below ground surface at the site (5). California Department of Water Resources Bulletin No. 104 indicates that below the perched groundwater unit (below a depth of 50 feet) all of the drinking water aquifers, including the Gage,

TABLE 4-1
Summary of Analytical Data From Soil Boring Samples Collected
Within and/or Below the Shallow Perched
Water Table at the Rutherford Pacific, Inc., Site *

Tank Farm Area

Sample I.E.

- BH1C-20' 240 ppm Total Lead
  1.25 ppm Benzene
  2.60 ppm E. Benzene
  1.12 ppm Xylene
  3.17 ppm Methylene Chloride

Light Ends Area

- BH5-10' 137 PPM Total Lead
  1.10 ppm Benzene
  9.83 ppm Toluene
  1.19 ppm E. Benzene
  0.872 ppm Xylene
  1.2 ppm 1,1-dichloroethane
  0.895 ppm Methylene Chloride
  1.43 ppm Tetrachloroethene
  1.77 ppm 1,1,1-trichloroethane
  3.42 ppm Trichloroethene
- BH6-10' 0.718 ppm Toluene
  0.573 ppm Xylene
  5.25 ppm Methylene Chloride
  1.15 ppm 1,1-dichloroethane
  3.79 ppm 1,1,2-trichloroethane
  0.615 ppm Trichloroethylene
- BH6-15' 0.704 ppm Toluene
  0.694 ppm Xylene
  0.688 ppm 1,1-dichloroethane
  3.88 ppm Tetrachloroethene
  1.61 ppm 1,1,1-trichloroethane
  1.32 ppm Trichloroethene
- BH6-20' 794 ppm Total Lead
  5.99 Toluene
  1.87 ppm E. Benzene
  6.75 ppm Xylene
  1.98 ppm 1,1-dichloroethane
  0.518 ppm Methylene Chloride
  4.09 ppm Tetrachloroethene
  2.98 ppm 1,1,1-trichloroethane
  2.5 ppm Trichloroethene

* Source: Preliminary Site Assessment Report Prepared By SCS Engineers, for Cree Investment Company (Reference 5 in this report).
* Results include concentrations of organics and total lead in excess of 0.5 and 100 mg/kg respectively. Note 1 mg/kg = 1 ppm.

Jefferson/Hollydale, Lynwood, Silverado, and Sunnyside Aquifers are merged, and are hydraulically connected within one mile of the site (6). The Lynwood, Silverado, and Sunnyside Aquifers are the major sources of drinking water for all of the West Coast and Central Groundwater Basins (6).

Two water supply wells, State A.D. #'s 4S/12W-17Q01S and 4S/12W-20G01S, are used by the City of Long Beach for drinking water (7, 8). Both of these wells are screened within the Silverado and Sunnyside Aquifers and are located within one mile of the site. Water from these wells is blended with water from other supply wells used by the City of Long Beach. This groundwater serves 70% of the population of Long Beach, or about 210,000 people (7). In addition, seven other water-supply wells, used by the City of Long Beach to supply drinking water, have been identified within a three-mile radius of the site (8). All of these wells are screened within or below the uppermost aquifer in the area.

o **Surface Water:**

The nearest surface water is the Los Angeles River, which is used for flood control and storm water runoff; in one section of the river, water is pumped from the river into the upper aquifers to recharge the lower drinking water aquifers. There are no coastal or freshwater wetlands within a three-mile radius of the site.

o **Air**

Wastes previously stored and handled on the site have been removed and the site is currently vacant. However, analysis of soil samples from shallow soil borings collected by SCS Engineers indicate that the subsurface soils to a depth of 30 feet contain elevated levels of halogenated hydrocarbons and metals. This contaminated subsurface soil has not been removed and could possibly be releasing measurable quantities of volatile gases to

the surface. Currently, there are no analytical data to demonstrate an air release. In addition, there are no residences adjacent to the site.

o **Waste Type/Quantity:**

The Rutherford facility was designed to accept only waste oil; however, it was determined that the facility, illegally accepted and handled halogenated solvents, other unspecified solvents, and acetone. Analysis of soil and tank farm sludge waste samples collected by the DOHS and SCS Engineers has verified that some of the wastes stored and handled on-site contained high concentrations of metals and halogenated hydrocarbons. The facility generated tank farm sludge as a waste product and is described below. The facility also generated other wastes such as oily wastewater and tank bottom wastes, but descriptions and chemical analyses of these wastes are not available as well as the method of disposal.

Sludge from the unlined bermed area surrounding the former tank farm was analyzed by the DOHS Hazardous Materials Unit on May 3, 1985 and found to contain high Concentrations of metals; Pb = 4,200 ppm; Zinc = 2,100 ppm; and Cu = 1,800 ppm. There is no sample location map available that indicates where the surface soil samples were collected by DOHS. The operator of the adjacent property to the east, Evan's Pump Company, complained about runoff from the Rutherford facility ponding in low-lying area on Evan's property. Analysis of soil samples on Evan's property in May 1985 also showed high concentrations of heavy metals; Pb = 2,5000 ppm; Ni = 5,900 ppm; Cu = 21,000 ppm; and Cr = 5,300 ppm. PCBs were analyzed for but not detected in any of the samples collected (1).

The DOHS estimated that there were approximately 4,900 square feet of inner tank space within the bermed area, with at least a one-foot layer of oily black/brown sludge found to contain high concentrations of heavy metals as indicated above (4). Using

conversion factors, it is estimated that 181 cubic yards of contaminated sludge existed on-site prior to its removal in May 1986.

The subsurface soils to a depth of 30 feet beneath the pre-existing tank farm area at the Rutherford site were sampled and analyzed by SCS Engineers and found to contain high concentrations of EPA 8010 and 8020 constituents and lead. Figure 2-2 shows the soil boring locations. Table 1-1 lists the contaminants found within or below the shallow perched water table. Section 2.5 of this report describes the soil boring investigation performed by SCS Engineers in more detail.

- **Fire and Explosion**

The Rutherford site is currently covered with native soil and does not appear to pose a fire or explosion threat. However, on February 21, 1985, when the facility was still operating, a fire and explosion occurred at the site, killing a senior employee. The cause of the fire and explosion is unknown. After the explosion, nearby co-workers extinguished a small fire over one of the storage tanks and realized that an employee was missing. Upon arrival of the Long Beach Fire Department, the emergency crew investigated the tank opening where the small fire had been extinguished and located the body of the deceased employee. The Los Angeles Coroner determined the cause of death to be drowning in the oil tank. After the accidental death of the employee, the company was directed to cease operations and clean up the site (1, 4, 7, 9).

- **Direct Contact:**

The Rutherford site is surrounded by both a six-and-eight foot chain-link fence on all sides of the property except the east side. Site access is unrestricted on the east side of the property. Since all of the waste materials and pre-existing tanks

and buildings used during the operation of the oil-recycling facility have been removed, the potential for public contact has been minimized. The site has also been covered with a layer of clean soil fill.

HRS SUMMARY:

Hazardous wastes, including halogenated solvents, other unspecified solvents, and acetone, were documented to have been handled at the Rutherford site during its operation. Analyses of soil samples collected from the surface and in soil borings to a depth of thirty feet have indicated the presence of various inorganic and organic contaminants in high concentrations (Table 1-1). There are no documented releases of hazardous materials to groundwater, surface water or the air, but the potential for release to the groundwater and air routes is very high due to the location of the site and other site conditions. A high potential for an observed release to groundwater is suspected since several of the soil samples collected from the on-site soil borings within the perched groundwater unit were determined to contain lead; toluene; benzene; xylene; 1,1-dichloroethane; methylene chloride; tetrachloroethene; 1,1,1-trichloroethane; trichloroethene; and trichloroethylene at concentrations ranging up to 794 ppm. High concentrations of metals in surface soil samples from the site were also documented. Surface soil samples from the site and the adjacent property contained lead, zinc, copper, nickel, and chromium at concentrations up to 21,000 ppm. An estimated 181 cubic yards of contaminated soil were documented to exist on the site prior to removal of the tank farm and buildings on the site.

Perched groundwater was encountered at depths of seven to thirteen feet at the site (5). Lithologic logs obtained from water well logs located within one mile of the site and regional groundwater basin studies indicate that below the upper unconfined aquifer (below depth of approximately 50 feet) all of the drinking water aquifers, including the Gage, Jefferson/Hollydale, Lynwood, Silverado, and Sunnyside Aquifers merge and are hydraulically connected within one mile of the site. The

Lynwood, Silverado and Sunnyside Aquifers are the major sources of drinking water for all of the West Coast and Central Groundwater Basins.

Several water supply wells used for drinking water by the City of Long Beach are located within one mile of the site and are screened within the Silverado and Sunnyside Aquifers. Water from these wells is blended with water from other supply wells serving the City of Long Beach, together supplying 70% of its total drinking water supply. The estimated population served by these wells is 210,000 people. The Los Angeles River flows approximately two miles west of the site, and is used for flood control, storm water runoff, and groundwater recharge.

Based on the available information regarding the site, its regional hydrogeology and analytical data, the site is likely to be eligible for inclusion on the National Priorities List.

5. SUMMARY OF FIT INVESTIGATIVE EFFORTS

5.1 FIT

After receiving the TDD work assignment, FIT conducted a file search at the Southern California Section of DOHS. The California Regional Water Quality Control Board and the Los Angeles County Health Department were contacted for information pertaining to the Rutherford site but they informed FIT that because the DOHS was the lead agency overseeing work on the site, that any files they had would be duplication of DOHS files. FIT scheduled and conducted a CERCLA site inspection at the Rutherford site on July 15, 1987. Present at the inspection were Ira J. (Bob) Cree, current owner of Cree Investment Company; and Tim Eckard, Doug Russell and Earl LaPensee, representing FIT. The inspection began with a meeting at the office of Cree Investment Company at 3250 Cherry Avenue in Long Beach, where the site history and waste management practices were discussed. After the office meeting, FIT visited the Rutherford site.

The office meeting began by FIT representatives explaining EPA's involvement with the site and its coordination with DOHS. The meeting continued with FIT members asking Mr. Cree to explain the site history, ownership, and waste management practices. Mr. Cree summarized the overall site history and ownership; the information gathered during the DOHS file search at the DOHS corroborated the information that Mr. Cree provided. This information is summarized in Section 2. Mr. Cree stated that Cree Investment Company owned the property and leased it to the former operator of the recycling facility (Facet Energy, Inc.). He stated that Mr. Lawrence Webster was the owner and operator of Facet Energy and that Mr. Webster defaulted on the responsibility to clean up the site. Mr. Cree said that this company was responsible for the cleanup and removal actions performed at the site. Mr. Cree also provided FIT with a site map and the initial work plan developed for the dismantling, removal, and cleanup of the site which was conducted between March and July 1986 (3, 9).

After the meeting, FIT was driven to the Rutherford site. Upon arriving at the site, Mr. Cree explained that all of the oil storage, process tanks and buildings were removed in May 1986 after the DOHS cease-and-desist directive was given to the former operator of the site (Facet Energy, Inc.) and to Mr. Cree. No additional samples were collected by FIT during the site inspection because the samples previously taken from the on-site soil borings by SCS Engineers had been analyzed and determined to be adequate for a preliminary assessment of soil contamination in the upper thirty feet of unconsolidated sediments. Figure 2-2 shows the location of the soil borings. Section 2.5 of this report describes the soil boring investigation performed by SCS Engineers in more detail.

Prior to the site inspection FIT was informed by the DOHS that they had not made a final determination on whether to perform more remedial work at the site. Based on FIT's review of the soil removal work and preliminary site assessment conducted by SCS Engineers and other contractors for Cree Investment Company at the Rutherford site, the vertical and aerial extent of soil contamination has not been adequately determined for final remedial measures or for a no-further-action recommendation, since soil borings were neither drilled below the depth of known contaminants or located off-site to determine background conditions. Also, subsurface soil samples were analyzed for a limited amount of possible contaminants which do not reflect all of the contaminants that were detected during the surface soil sampling performed by DOHS. Neither DOHS surface soil sampling effort or the subsurface soil sampling investigation performed by SCS Engineers was sufficient to identify all of the possible contaminants that might exist at the site. Furthermore, there have been no groundwater monitor wells installed at the site and the shallow groundwater encountered during the soil boring investigation was not sampled.

Photographs of the site were taken and are shown in Appendix B.

5.2 OTHER AGENCY

The Rutherford (Facet) facility was inspected by the DOHS in 1983 as a possible candidate for a RCRA hazardous waste operating permit. After 1983, Rutherford received numerous Notice-of-Violations (NOVs) by the DOHS and the Long Beach Environmental Health Department. Rutherford never complied with these NOVs (4). Rutherford formerly had a RCRA permit for the transportation of hazardous wastes dated July 1, 1982, but this permit is no longer active. Since the Rutherford facility has been dismantled and the company no longer exists, the site is currently not permitted for storing or handling any type of hazardous wastes.

After the accidental death of a senior employee of Facet on February 21, 1985, an investigation/inspection was conducted on April 1, 1985 by state, county and city health agencies. The company was directed to cease operations, remove any hazardous wastes stored at the facility, and submit a remedial action plan. Facet Energy did not accept responsibility for cleanup of the site and thus the cleanup action reverted back to Cree Investment Company, the present property owner (1, 4).

The DOHS proceeded with enforcement actions against Rutherford and the company was referred to the Los Angeles District Attorney for possible civil/criminal penalties. The DOHS prepared a preliminary California site ranking score. The DOHS's Assessment and Mitigation Unit became involved after the site was placed on the State Expenditure Plan. The DOHS also prepared a PA and conducted a site inspection of the facility. The current owners of the Rutherford property, Cree Investment Company, submitted a preliminary site assessment report to the DOHS entitled "Preliminary Site Assessment Report for the Facet Energy Site" which is referenced throughout this report (5). Further remedial action on the site is pending DOHS review and recommendations.

6. RECOMMENDATIONS AND CONCLUSIONS

The Rutherford site is located in the Signal Hill area of Long Beach, California. Prior to the dismantling and removal of the facility in 1986, the site was operated as a waste-oil recycler. The facility was designed to recycle only used motor oil, but documentation by the DOHS indicates that the facility accepted halogenated solvents, other unspecified solvents, and acetone. Improper waste handling practices by the site operators at the facility resulted in contamination of the surface and subsurface soils. The site is currently a vacant lot.

EPA:

The site will most likely score high enough for inclusion on the National Priorities List, based on the following available hydrogeological and analytical data:

- o High potential for an observed release to the uppermost unconfined/perched aquifer;
- o Hydraulic continuity below the uppermost unconfined/perched aquifer and all of the lower drinking water aquifers;
- o High groundwater target population of about 210,000 people; and
- o Documentation exists for disposal of hazardous wastes on the site.

The site poses a potential threat to the quality of groundwater in the drinking water aquifers of the Signal Hill area. The population of concern is the City of Long Beach with a target population of 210,000 people; the city draws 70% of its drinking water from aquifers which are potentially interconnected to the uppermost contaminated soils and perched groundwater within the upper thirty feet of unconsolidated sediments at the site. Therefore, FIT recommends a Listing Site Inspection (LSI) for the Rutherford site. The LSI should be geared

towards verifying groundwater contamination and the degree of hydraulic continuity between the uppermost unconfined/perched aquifer and the lower drinking water aquifers that are known to be hydraulically interconnected within one mile of the site. One or two monitor well cluster-sites should be designed with wells installed and screened within and below the uppermost unconfined aquifer, and also at selected deeper intervals within the drinking-water aquifers. It should be noted that further work initiated by EPA must be coordinated with DOHS and other state and local agencies.

STATE:

The Southern California Section DOHS is currently pursuing enforcement action against the present owner of the Rutherford site (Cree Investment Company). DOHS should receive a copy of this report for its consideration.

EPA CONCURRENCE	Initial	Date
No Further Action Under CERCLA	_____	____
Listing Site Inspection	[signature]	7.11.88

j/te/ruthfrd/si

towards verifying groundwater contamination and the degree of hydraulic continuity between the uppermost unconfined/perched aquifer and the lower drinking water aquifers that are known to be hydraulically interconnected within one mile of the site. One or two monitor well cluster-sites should be designed with wells installed and screened within and below the uppermost unconfined aquifer, and also at selected deeper intervals within the drinking-water aquifers. It should be noted that further work initiated by EPA must be coordinated with DOHS and other state and local agencies.

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EPA CONCURRENCE	Initial	Date
No Further Action Under CERCLA	_____	_____
Listing Site Inspection	_____	7/88

High priority for LSI in CERCLIS, dating back to 7/88.

R Lofton
4-23-91

j/te/ruthfrd/si

7. REFERENCES

1. Ecology and Environment, Inc., 1987, "Preliminary Assessment Review," Rutherford Pacific, Inc., Long Beach, CA, Report to U.S. EPA Region IX.

2. SCS Engineers, 1986, "Site Investigation Work Plan for Facet Energy Site," Long Beach, CA, Report to Cree Investment Company.

3. Roberts, William T., 1986, "Environmental Site Clean-up Workplan," Long Beach, CA, Report to Cree Investment Company.

4. Department of Health Services, Southern California Section, 1985, "Preliminary Assessment Summary," Rutherford Pacific, Inc., Long Beach, CA.

5. SCS Engineers, 1987, "Preliminary Site Assessment Report for Facet Energy Site," Long Beach, CA, Report to Cree Investment Company.

6. California Department of Water Resources, 1961, "Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County Appendix A, Groundwater Geology, Bulletin No.104".

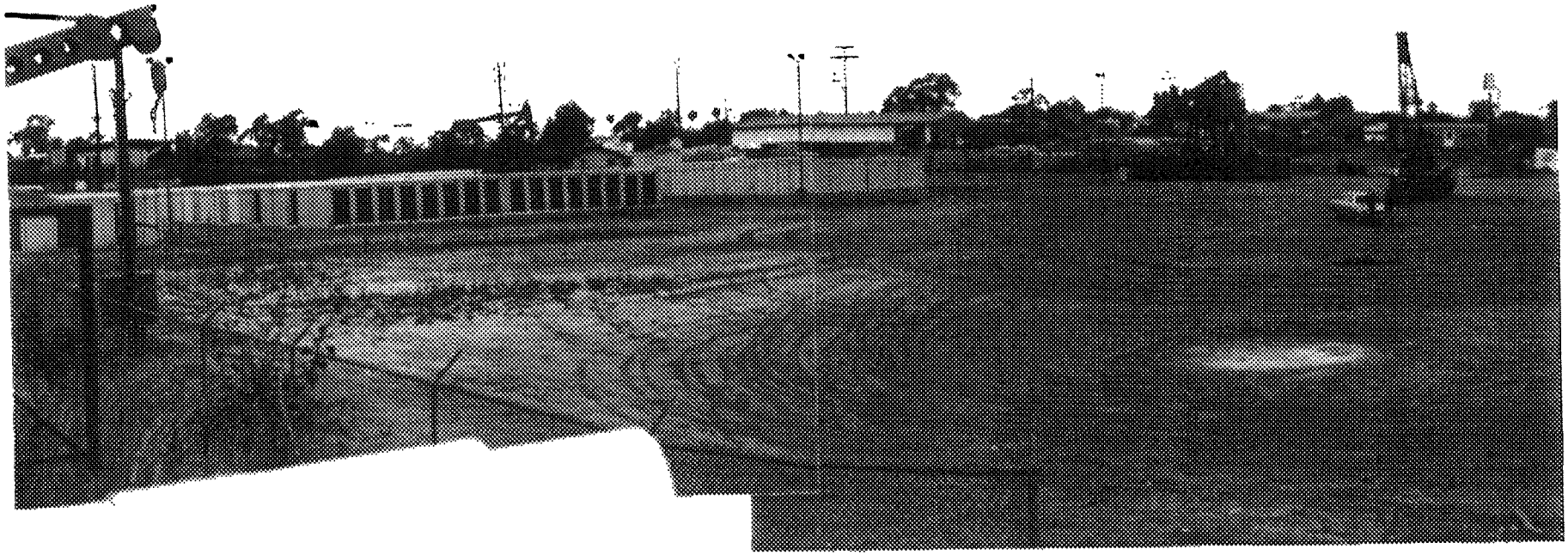
7. Department of Health Services, Southern California Section, 1987, "HRS Package," Rutherford Pacific, Inc., Long Beach, CA.

8. California Department of Water Resources, 1986, "Watermaster Service Central Basin, Los Angeles County, July 1, 1985 - June 30, 1986."

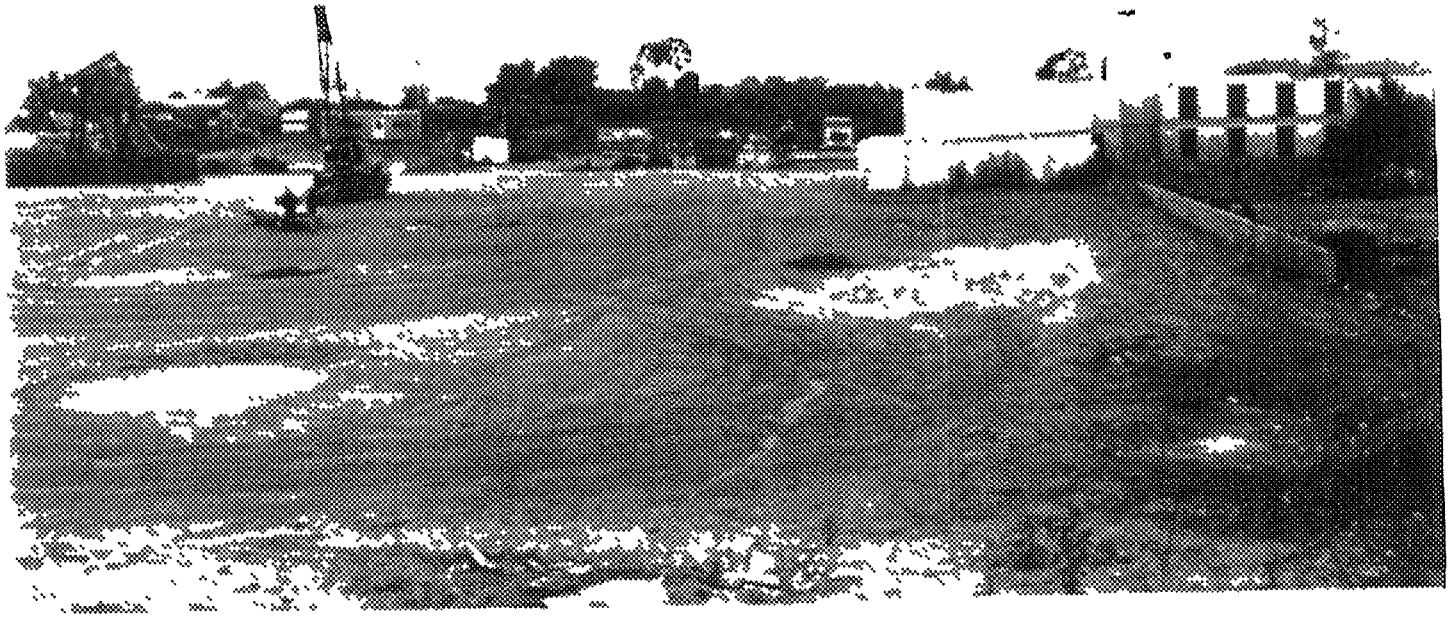
APPENDIX A

Photographs of the Rutherford Pacific, Inc. Site

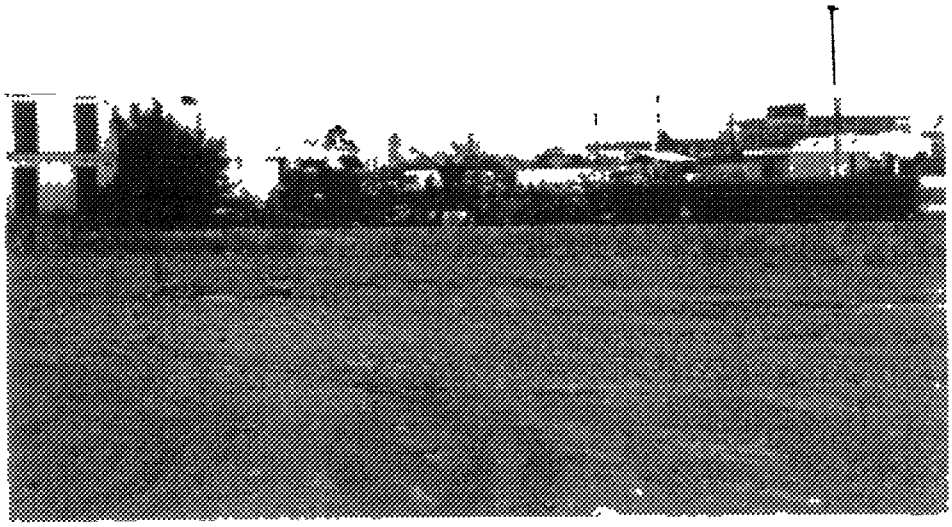
The following photographs of the Rutherford Pacific, Inc. site were taken by Tim Eckard on July 15, 1987. The weather was overcast and warm.



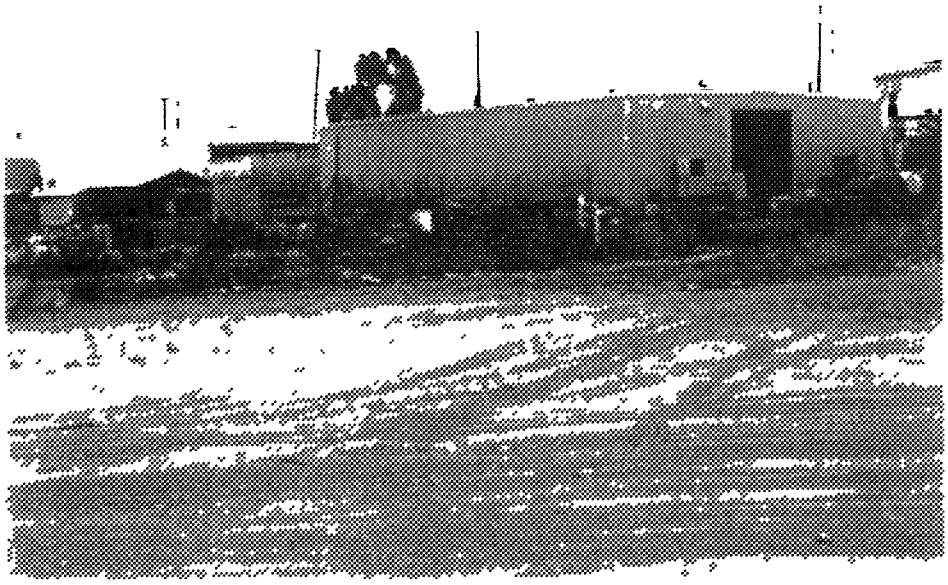
Panoramic view facing northwest from the southern property line. Note the mini-storage buildings to the left and the operating Texaco oil well in the background.



Panoramic view facing north from the southern property line. Note the mini-storage containers to the right and the low brick wall which is parallel to the eastern property line.



View facing east side of property. Equipment and materials stored in the background beyond the low brick wall are part of the equipment yard owned by the adjacent property owner.



View facing southeast of buildings and equiment yard of adjacent property owner.

View of open, unfilled soil boring drilled on-site during a shallow subsurface investigation by SCS Engineers between December 1986 and January 1987.

APPENDIX B

Contact Log and Reports

PA/SI CONTACT LOG

Facility Name: Rutherford Pacific, Inc.
Facility ID: CAD980737035

Name	Affiliation	Phone #	Date	Information
Tim Parker	DOHS, S. Cal. Section	(213) 620-3029	6/26/87	See Contact Report.
Konstantine George	Cree Invest. Company	(213) 424-8647	6/29/87	See Contact Report.

CONTACT REPORT

AGENCY:	Department of Health Services, Southern California Section (SCS)
ADDRESS:	107 S. Broadway Los Angeles, CA 90012
PERSON CONTACTED:	Tim Parker
PHONE:	(213) 620-3029
FROM:	Tim Eckard
TO:	File
DATE:	6/26/87
SUBJECT:	Rutherford Pacific, Inc./Facet Energy, Inc. (RPI/FE)

Mr. Parker provided the following information:

Mr. Parker stated that Cree Investment Company was the current property owner of the Rutherford Pacific, Inc. site (Rutherford). Cree Investment Company is located at 3250 Cherry Ave., Long Beach, CA. 90807, (213-424-8647). Cree Investment Company has performed a preliminary assessment of the site and has submitted a report to the Department of Health Services. Mr. Konstantine George is the lawyer representing Cree Investment Company and can be contacted at the Cree Investment Company address.

CONTACT REPORT

AGENCY: Cree Investment Company

ADDRESS: 3250 Cherry Ave.
Long Beach, CA 90807

PERSON CONTACTED: Mr. Konstantine George

PHONE: (213) 424-8647

FROM: Tim Eckard

TO: File

DATE: 6/29/87

SUBJECT: Rutherford Pacific, Inc. Site

Mr. George provided the following information:

I explained to Mr. George that E & E was a contractor for the U.S. EPA and that we wished to arrange a site inspection of the Rutherford Pacific, Inc. (Rutherford) site. We selected July 15, 1987, as the day for the site inspection. Mr. George requested that the letter of introduction be forwarded to the following address:

Mr. Konstantine George
200 Pine Ave.
Suite 606, P.O. Box 2210
Long Beach, CA 90802

POOR LEGIBILITY

ONE OR MORE PAGES IN THIS DOCUMENT ARE DIFFICULT TO READ
DUE TO THE QUALITY OF THE ORIGINAL